IN THE CLAIMS

Please replace the claims with the following re-written version:

1. (Currently Amended) A method for determining sound velocity Cb in a base material of a specimen to be tested, using an ultrasonic probe,

the probe comprising: a transmitting transducer; a receiving transducer; and a precursor body; said precursor body: a) having a coupling surface by which the probe is couplable to the base material, b) carrying the receiving transducer and the transmitting transducer, and c) having a sound velocity Cv; said transmitting transducer and said receiving transducerbeing oriented to be inclined towards each other and each towards the coupling surface so that a main transmission direction of the transmitting transducer and a main receiving direction of the receiving transducer intersect below the coupling surface; said transmitting transducer and receiving transducerbeing spaced apart at a center to center distance K; said transmitting transducer and said receiving transducer being spaced at a center to center distance Dv from the coupling surface;

said method comprising:

generating an ultrasonic pulse by the transmitting transducer which is passed through the precursor body into the base material;

the ultrasonic pulse producing a creeping wave in the base material, the creeping wave being a surface wave, at least a portion of the creeping wave reaching the receiving transducer via the precursor body; and

measuring ~~the~~ a shortest sound travel time Ttot of the ultrasonic pulse and the sound velocity Cb in the base material by a path between the transmitting transducer and the receiving transducer that supplies the shortest total travel time Ttot.

2. (Currently Amended) The method according to claim 1, wherein the path that supplies the shortest total travel time Ttot is determined by summing a travel distance from the transmitting transducer to the base material, ~~the~~ a travel distance within the base material and ~~the~~ a travel distance from the base material to the receiving transducer and by optimizing said travel distances with regard to the shortest total travel time Ttot.

3. (Original) The method according to claim 1, wherein the shortest total travel time Ttot is obtained through

$$T_{tot} = \frac{K}{Cb} + 2Dv\left(\frac{1}{Cv\cos(\arcsin(\frac{Cv}{Cb}))} - \frac{\tan(\arcsin(\frac{Cv}{Cb}))}{Cb}\right).$$

4. (Previously Presented) The method according to claim 1, wherein main beams of the transmitting transducer and the receiving transducer lie in the same plane, the main beams being inclined at the same angle relative to a coupling surface.

5. (Currently Amended) The method according to claim 1, further including determining sound velocity in a coating material applied as a layer on base material, the method comprising:

placing the probe onto the layer having a thickness Ds;

generating an ultrasound pulse by the transmitting transducer that traverses both the precursor body and the layer at an incline toward the coupling surface;

producing a creeping wave in the base material a portion of which creeping wave again traverses the layer and the precursor body at an incline toward the coupling surface prior to reaching the receiving transducer;

registering and measuring ~~the~~ a receive signal with the shortest total travel time Ttot ; and

determining the coating thickness Ds of the layer from that path that supplies the shortest total travel time Ttot.

6. (Previously Presented) The method according to claim 5, wherein the shortest travel time Ttot is obtained from

$$Ttot = \frac{K}{Cb} + 2\left(Dv\left(\frac{1}{Cv\cos\arcsin(\frac{Cv}{Cb})} - \frac{\tan\arcsin(\frac{Cv}{Cb})}{Cb}\right) + Ds\left(\frac{1}{Cs\cos\arcsin(\frac{Cs}{Cb})} - \frac{\tan\arcsin(\frac{Cs}{Cb})}{Cb}\right)\right),$$

wherein Ds = the thickness of the layer.

7. (Currently Amended) The method according to claim 1, wherein the path that supplies the shortest total travel time Ttot is determined by summing up a travel distance from the transmitting transducer to the base material, ~~the~~ a travel distance within the base material and ~~the~~ a travel distance from the base material to the receiving transducer and by differentiation after the angle.

8. (Currently Amended) A device for determining sound velocity Cb in a base material of a specimen to be tested, comprising:

an ultrasonic probe comprising: a transmitting transducer; a receiving transducer; and a precursor body;

said precursor body: a) having a coupling surface by which the probe is couplable to the base material, b) carrying the receiving transducer and the transmitting transducer, and c) having a sound velocity Cv;

said transmitting transducer and said receiving transducer being oriented to be inclined towards each other and each towards the coupling surface so that a main transmission direction of the transmitting transducer and a main receiving direction of the receiving transducer intersect below the coupling surface;

said transmitting transducer and said receiving transducer being spaced apart at a center to center distance K; and

said transmitting transducer and said receiving transducer being spaced at a center to center distance Dv from the coupling surface,

wherein the transmitting transducer is configured to generate an ultrasonic pulse which passes through the precursor body into the base material, wherein the ultrasonic pulse produces a creeping wave in the base material, the creeping wave being a surface wave, a portion of the creeping wave being configured to reach the receiving transducer via the precursor body, and wherein the shortest sound travel time Ttot of the ultrasonic pulse is measurable and the sound velocity Cb in the base material is determinable by the very path between the transmitting transducer and the receiving transducer that supplies the shortest total travel time Ttot.

9. (Cancelled)

10. (Currently Amended) The device of claim 8, wherein main beams of the transmitting transducer and said receiving transducer lie in the same plane, the main beams inclined at the same angle relative to the coupling surface.